

**HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION
WEEKLY REPORT
Williams AFB ST012**

Site No.: 9101-11-0001

Week Ending 04 November 2016

I. SITE SUBCONTRACTOR SUMMARY

Company	Sat	Sun	Mon	Tue	Wed	Thu	Fri
Amec Foster Wheeler			X	X	X	X	X
Terra Therm							
MP Environmental			X	X	X	X	X
Yellow Jacket			X	X	X	X	X

II. SCHEDULE / SITE ACTIVITIES REVIEW

A. SEE Demolition - None

B. Well Drilling and Development

- Drilled and installed the following characterization wells (development to follow):
 1. LSZ54
 2. LSZ56 (well started during week ending 28 October 2016)

C. EBR Construction - None

D. Containment System Construction

- Continued installation and pressure testing of wellfield piping
- Extraction well VFDs installed

E. Sampling/Monitoring

- SEE/EBR well LNAPL monitoring/removal
- Removal of eductors and LNAPL monitoring at the following wells:
 1. CZ13
 2. CZ15
 3. UWBZ04
 4. UWBZ05

5. UWBZ06
6. UWBZ24
7. LSZ01
8. LSZ04
9. LSZ05
10. LSZ06
11. LSZ08
12. LSZ13
13. LSZ16

F. SVE System Operation/Optimization

- Routine operation
- Operated the flame-oxidizer in parallel with the thermal oxidizer.
 1. There were no shutdowns of the thermal oxidizer this week.
 2. There were was one shutdown of the flame oxidizer this week.
 - a. On 28 October, the flame oxidizer shut down due to a flame failure alarm. The system was down over the subsequent weekend, and was restarted successfully, approximately 70 hours after system shutdown.

III. SVE OPERATING DATA

A. Thermal Oxidizer Destruction Efficiency/Mass Removal Summary

The destruction efficiency and mass removal calculations for the thermal oxidizer are tabulated below. A correction factor was applied to PID readings based on available analytical data and corresponding PID data. This factor is updated each time new analytical data is available and may retroactively alter previously reported data.

Date Period Began	Date Period Ended	Days in Period	Time Thermal Oxidizer Operated	Thermal Oxidizer Uptime	Influent Concentration (PID)	Influent Concentration (Adjusted PID) ^(a)	Effluent Concentration (PID)	Effluent Concentration (Adjusted PID) ^(a)	Calculated Destruction Efficiency ^(a)	Flowrate into Oxidizer (End of Period) ^(a)	Estimated VOC Mass Removed ^(b)	Average Daily Removal Rate ^(b)	Estimated VOC Mass Released to Atmosphere ^(b)	Average VOC Mass Released to Atmosphere ^(b)
---	---	days	hrs	%	ppmv	mg/m ³	ppmv	mg/m ³	%	scfm	lbs/period	lbs/day	lbs/period	lbs/day
4/7/2016	4/15/2016	7	112	63%	560	10,776	4.6	4.2	99.96%	1,396	6,312	847	2	0.33
4/15/2016	4/21/2016	6	147	100%	342	6,581	1.0	0.9	99.99%	1,571	5,692	929	0.8	0.13
4/21/2016	4/29/2016	8	188	99%	296	5,696	2.6	2.4	99.96%	1,396	5,600	711	2.3	0.29
4/29/2016	5/5/2016	6	130	90%	179	3,445	1.6	1.5	99.96%	1,396	2,342	390	1.0	0.16
5/5/2016	5/20/2016	15	323	90%	394	7,582	0.5	0.5	99.99%	1,047	9,605	640	0.6	0.04
5/20/2016	5/26/2016	6	146	100%	699	14,913	42.2	38	99.74%	698	5,693	936	14.6	2.40
5/26/2016	6/2/2016	7	166	99%	340	7,254	62.2	56	99.22%	698	3,149	450	24.5	3.50
6/2/2016	6/10/2016	8	164	85%	679	10,931	1.2	1.1	99.99%	1,309	8,791	1,099	0.9	0.11
6/10/2016	6/17/2016	7	167	99%	462	7,438	12.7	12	99.85%	1,047	4,872	696	7.5	1.08
6/17/2016	6/24/2016	7	165	98%	179	2,882	0.6	0.5	99.98%	1,466	2,611	373	0.5	0.07
6/24/2016	6/27/2016	3	74	100%	431	8,516	0.0	0.0	>99.99%	1,920	4,533	1,470	0.0	0.00
6/27/2016	6/29/2016	2	47	100%	N/A	8,516	N/A	0.0	>99.99%	1,152	1,727	882	0.0	0.00
6/29/2016	7/8/2016	9	215	100%	697	13,772	0.2	0.3	>99.99%	524	5,812	649	0.1	0.01
7/8/2016	7/14/2016	6	128	89%	1080	23,314	1.3	1.8	99.99%	489	5,467	911	0.4	0.07
7/14/2016	7/22/2016	8	56	29%	848	18,306	7.6	10	99.94%	698	2,680	335	1.5	0.19
7/22/2016	7/29/2016	7	163	97%	636	16,947	10.2	14	99.92%	628	6,499	928	5.3	0.76
7/29/2016	8/4/2016	6	84	58%	681	18,146	1.5	2	99.99%	1,466	8,370	1,395	0.9	0.16
8/4/2016	8/11/2016	7	168	100%	475	17,982	1.2	2	99.99%	698	7,899	1,128	0.7	0.10
8/11/2016	8/18/2016	7	120	71%	476	18,020	1.6	2	99.99%	768	6,221	889	0.8	0.11
8/18/2016	8/25/2016	7	168	100%	285	10,789	2.2	3	99.97%	628	4,266	609	1.2	0.17
8/25/2016	9/1/2016	7	167	99%	498	17,548	1.4	2	99.99%	489	5,368	767	0.6	0.08
9/1/2016	9/8/2016	7	169	100%	986	34,744	3.7	5	99.99%	986	21,689	3,080	3.2	0.45
9/8/2016	9/15/2016	7	145	87%	605	21,319	12.5	17	99.92%	419	4,850	697	3.9	0.56
9/15/2016	9/22/2016	7	169	100%	454	15,821	18.4	72 *	99.55%	419	4,195	596	19.0	2.69
9/22/2016	9/29/2016	7	167	99%	475	16,553	18.5	72 *	99.57%	628	6,503	929	28.2	4.04
9/29/2016	10/6/2016	7	166	99%	805	15,402	1.9	7 *	99.95%	628	6,015	859	2.9	0.41
10/6/2016	10/13/2016	7	165	98%	578	11,059	1.1	4 *	99.96%	489	3,343	478	1.3	0.18
10/13/2016	10/20/2016	7	136	81%	620	10,621 *	18.8	73 *	99.31%	441	2,386	341	16.4	2.35
10/20/2016	10/27/2016	7	170	100%	699	11,974 *	1.8	7 *	99.94%	494	3,767	532	2.2	0.31
10/27/2016	11/3/2016	7	166	100%	631	10,809 *	0.8	3 *	99.97%	524	3,522	509	1.0	0.15

Notes:

% - percent
hrs - hours
JP-4 - jet petroleum fuel grade four
lbs - pounds
mg/m³ - milligrams per cubic meter
ppmv - parts per million by volume

scfm - standard cubic feet per minute
TPH - total petroleum hydrocarbons
PID - photoionization detector
SVE - soil vapor compound
VOC - volatile organic compound

* Concentration and associated calculated values may change after receipt of subsequent analytical data.

- (a) Calculated destruction efficiencies are calculated using a single sampling event for each week, not using the average influent and effluent results.
- (b) Mass and volumes are calculated based on laboratory data for TPH reported as JP-4. As has been the basis for previous calculations at ST012, the average molecular weight of TPH as JP-4 is assumed equivalent to xylene (106.168 grams per mole). The assumed liquid density of the fuel is 6.57 lbs per gallon.
- (c) The influent PID correction factor calculation has been revised to reflect a three-value rolling average (the average of the correction factor for the analytical sample collected one event prior, the current event, and one event after). The correction factor for 11 March 2016 has been removed as anomalous during the post-steam operation period based on the subsequent six months of correction factors calculated. The average for the 07 April through 21 April 2016 period incorporates only 25 April and 23 May 2016 correction factors.
- (e) To address inconsistencies in influent PID and flow rate measurements, system piping was changed on 13 October 2016. Flow rate measurements prior to this date are reported in acfm, and after this date are reported in scfm.
- (f) An incorrect correction factor was used to calculate the Effluent Concentration (Adjusted PID) for the period between 24 June and 8 September 2016. The value has been corrected for that period.
- (g) The effluent PID correction factor for the 15 September 2016 sample was anomalous compared to historical values. An average of correction factors from samples before and after this date was used.

B. Flame Oxidizer Destruction Efficiency/Mass Removal Summary

The destruction efficiency and mass removal calculations for the flame oxidizer are tabulated below. A correction factor was applied to PID readings based on available analytical data and corresponding PID data. This factor is updated each time new analytical data is available and may retroactively alter previously reported data.

Date Period Began	Date Period Ended	Days in Period	Time Flame Oxidizer Operated ^(d)	Flame Oxidizer Uptime ^(e)	Influent Concentration (PID)	Influent Concentration (Adjusted PID) ^(f)	Effluent Concentration (PID)	Effluent Concentration (Adjusted PID)	Calculated Destruction Efficiency ^(g)	Flowrate into Oxidizer (End of Period)	Estimated VOC Mass Removed ^(h)	Average Daily Removal Rate ⁽ⁱ⁾	Estimated VOC Mass Released to Atmosphere ^(j)	Average VOC Mass Released to Atmosphere ^(k)
---	---	days	hrs	%	ppmv	mg/m ³	ppmv	mg/m ³	%	scfm	lbs/period	lbs/day	lbs/period	lbs/day
8/4/2016	8/11/2016	7	107	64%	509	13,710	17.1	1.1	99.99%	768	4,219	603	0.3	0.05
8/11/2016	8/18/2016	7	91	54%	428	11,528	16.4	1.1	99.99%	768	3,018	431	0.3	0.04
8/18/2016	8/25/2016	7	78	46%	483	13,009	8.9	0.6	>99.99%	838	3,184	455	0.1	0.02
8/25/2016	9/1/2016	7	112	67%	433	10,103	5.6	0.4	>99.99%	768	3,256	465	0.1	0.02
9/1/2016	9/8/2016	7	102	61%	414	9,660	7.2	0.5	>99.99%	942	3,477	497	0.2	0.02
9/8/2016	9/15/2016	7	140	83%	868	20,253	13.6	0.9	>99.99%	1,047	11,121	1,589	0.5	0.07
9/15/2016	9/22/2016	7	149	89%	499	10,431	13.1	1.2 *	99.99%	1,047	6,096	871	0.7	0.10
9/22/2016	9/29/2016	7	158	94%	682	14,256	3.9	0.3 *	>99.99%	1,222	10,311	1,473	0.2	0.04
9/29/2016	10/6/2016	7	119	71%	834	11,860	3.1	0.3 *	>99.99%	977	5,166	738	0.1	0.02
10/6/2016	10/13/2016	7	167	99%	593	8,433	2.4	0.2 *	>99.99%	1,012	5,339	763	0.1	0.02
10/13/2016	10/20/2016	7	117	70%	331	4,707 *	13.7	1.2 *	99.97%	597	1,232	176	0.3	0.05
10/20/2016	10/27/2016	7	170	100%	379	5,390 *	1.4	0.1 *	>99.99%	653	2,241	316	0.1	0.01
10/27/2016	11/3/2016	7	100	60%	444	6,314 *	0.5	0.0 *	>99.99%	669	1,582	229	0.0	0.00

Notes:

% - percent

hrs - hours

JP-4 - jet petroleum fuel grade four

lbs - pounds

mg/m³ - milligrams per cubic meter

ppmv - parts per million by volume

scfm - standard cubic feet per minute

TPH - total petroleum hydrocarbons

PID - photoionization detector

SVE - soil vapor compound

VOC - volatile organic compound

* Concentration and associated calculated values may change after receipt of subsequent analytical data.

(a) Discrepancies in runtime clocks for the flame oxidizer have been observed since restart. The system is being observed and diagnosed. The primary blower hours are currently used to calculate uptime.

(b) Calculated destruction efficiencies are calculated using a single sampling event for each week, not using the average influent and effluent results.

(c) Mass and volumes are calculated based on laboratory data for TPH reported as JP-4. As has been the basis for previous calculations at ST012, the average molecular weight of TPH as JP-4 is assumed equivalent to xylene (106.168 grams per mole). The assumed liquid density of the fuel is 6.57 lbs per gallon.

(d) An error in hour recording caused an anomaly in hours that the flame oxidizer operated for the weeks ending 25 August and 2 September. The operation hours were estimated based on the flame oxidizer temperature chart recorder.

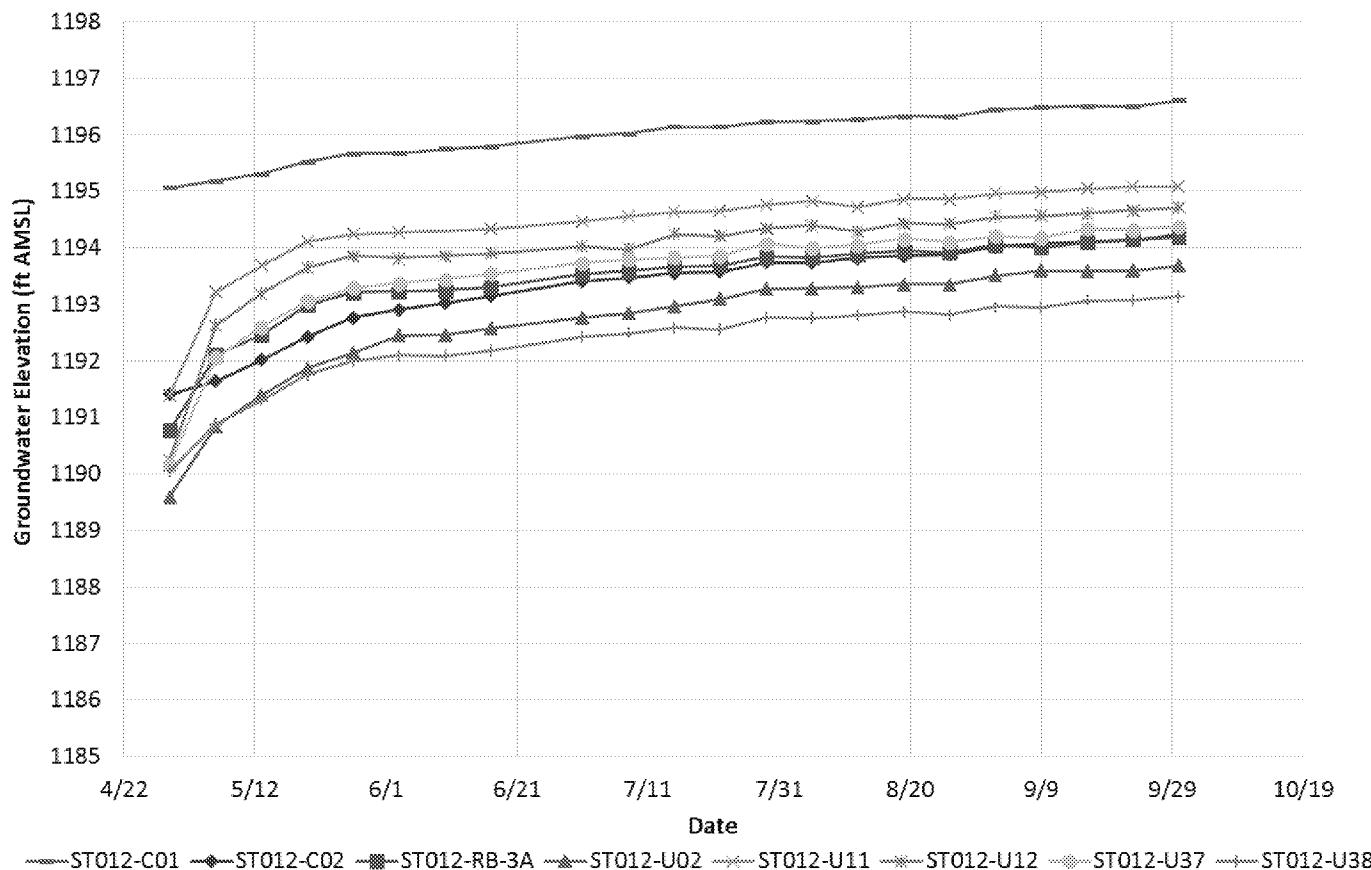
(e) To address inconsistencies in influent PID and flow rate measurements, system piping was changed on 13 October 2016. Flow rate measurements prior to this date are reported in acfm, and after this date are reported in scfm.

(f) The influent PID correction factor calculation has been revised to reflect a three-value rolling average (the average of the correction factor for the analytical sample collected one event prior, the current event, and one event after).

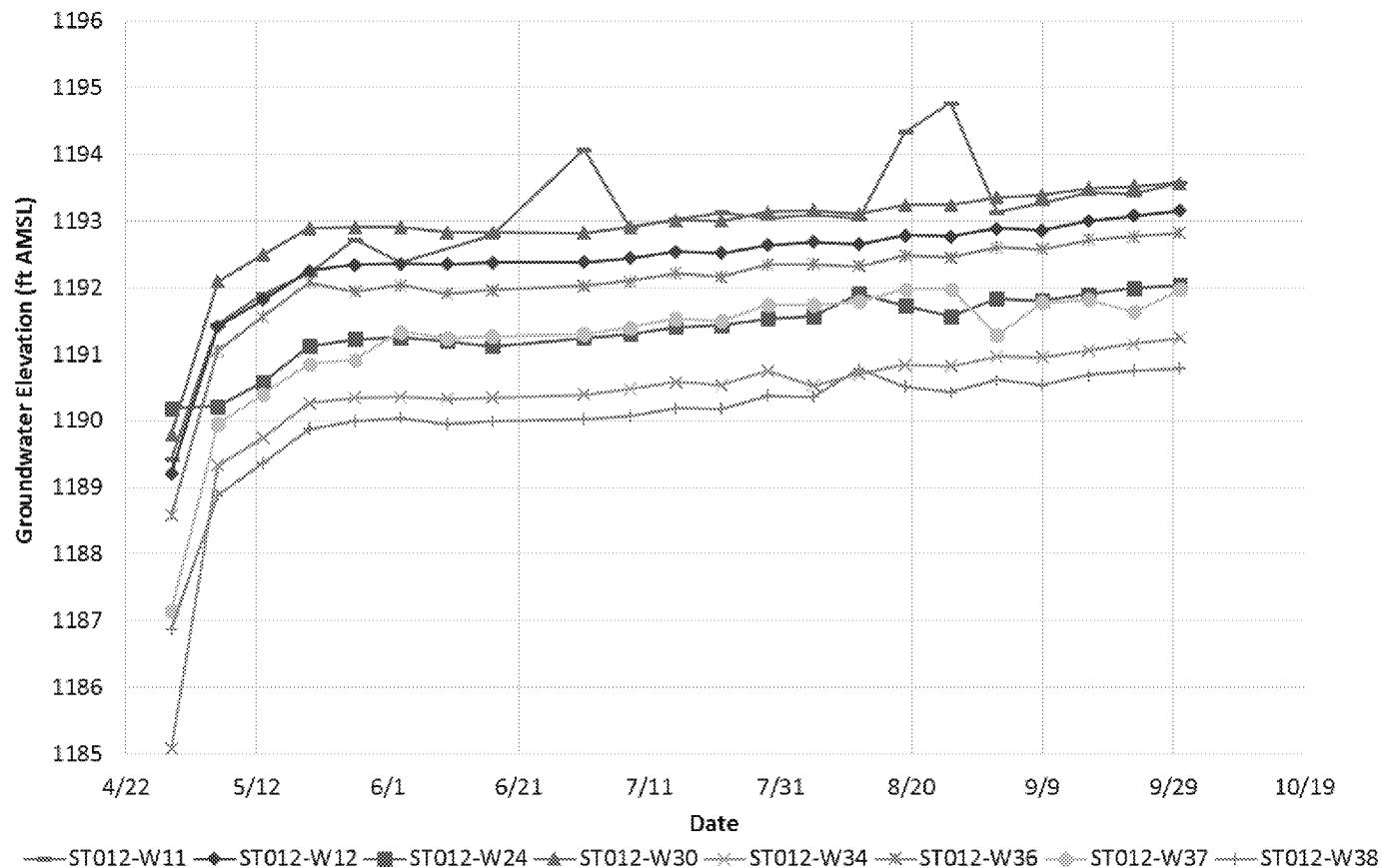
IV. GROUNDWATER ELEVATION MONITORING

Groundwater elevations monitored since the shutdown of the final extraction phase of SEE (29 April 2016). Starting with the week ending 7 October 2016, groundwater elevation monitoring will be performed monthly at all perimeter monitoring locations, except ST012-W11 and ST012-W37, which will be monitored weekly based on continued LNAPL recovery. Monthly perimeter well monitoring will continue until the startup of the planned active containment extraction system, at which time the monitoring frequency will be as described in the ST012 Field Variance Memorandum 5, Extraction and Treatment System Construction. The next monitoring event will be completed during the week ending 11 November 2016.

CZ and UWBZ Groundwater Elevations



LSZ Groundwater Elevations



Note: Increased groundwater elevation in ST012-W11 on 19 August and 26 August 2016 are suspected to be influenced by LNAPL in the monitoring well caused by malfunctioning measuring equipment.

V. SUBSURFACE TEMPERATURE MONITORING

A. Perimeter Monitoring Well Temperatures

The next monitoring event will be completed during the week ending 11 November 2016.

VI. SEE TEMPERATURE MONITORING POINTS

This section will be updated periodically with new temperature monitoring point (TMP) data.

VII. LNAPL MONITORING

A. Perimeter LNAPL Thickness (ft)

Starting with the week ending 7 October 2016, groundwater elevation monitoring will be performed monthly at all perimeter monitoring locations, except ST012-W11 and ST012-W37, which will be monitored weekly based on continued LNAPL recovery. Monthly perimeter well monitoring will continue until the startup of the expected active containment extraction system.

Monitoring Well	10/14/2016			10/21/2016			10/28/2016			11/04/2016		
	Before bailing/ pumping	After Bailing/ pumping	Weekly Gallons Removed									
CZ/UWBZ Wells												
ST012-C01	---	---	---	---	---	---	---	---	---	---	---	---
ST012-C02	---	---	---	---	---	---	---	---	---	---	---	---
UWBZ Wells												
ST012-U02	---	---	---	---	---	---	---	---	---	---	---	---
ST012-U11	---	---	---	---	---	---	---	---	---	---	---	---
ST012-U12	---	---	---	---	---	---	---	---	---	---	---	---
ST012-U37	---	---	---	---	---	---	---	---	---	---	---	---
ST012-U38	---	---	---	---	---	---	---	---	---	---	---	---
ST012-RB-3A	---	---	---	---	---	---	---	---	---	---	---	---
LSZ Wells												
ST012-W11	8.30	8.30	0.00	9.00	0.55	25	2.26	0.00	5.00	---	---	---
ST012-W12	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W24	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W30	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W34	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W36	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W37	20.84	20.84	0.00	21.00	4.10	18	8.64	8.64	0.00	14.64	0.00	10
ST012-W38	---	---	---	---	---	---	---	---	---	---	---	---

B. LNAPL Monitoring and Removal

The table included with this report as Attachment 1 summarizes the removal and monitoring performed at LNAPL screened wells.

VIII. WASTE GENERATION AND RECYCLING

No site-derived waste or recyclable material was removed this week.

IX. TWO WEEK LOOK AHEAD

A. SEE Demolition - None

B. EBR Construction – None

C. Containment System Construction

1. Continued construction of active containment system detailed in Field Variance Memo 05

D. Well Drilling/Development

1. Continued logging and installation of well locations detailed in Field Variance Memo 04

E. Sampling/Monitoring Activities

1. Pumping and bailing to remove NAPL from SEE wells
2. Continued NAPL screening in SEE extraction and injection wells
3. Removal of eductors from existing SEE wells; enables wells to be monitored for LNAPL
4. Perimeter well monitoring
5. TMP monitoring

F. SVE System Operation/Optimization

1. Continue operation of flame oxidizer and thermal oxidizer with SVE system

X. ATTACHMENTS

1. LNAPL Monitoring and Removal Table
2. LNAPL Screening Figures based on table in Attachment 1
3. Boring logs for completed wells:
 1. LSZ54
 2. LSZ56

Attachment 1. LNAPL Monitoring and Removal

The following table summarizes the removal and monitoring performed at LNAPL screened wells. LNAPL monitoring of wells was prioritized based on expected future usage of each well as part of EBR. Subsequent LNAPL monitoring/removal frequency was prioritized based on the amount of LNAPL, the observed LNAPL recharge, and the temperature of each well. LNAPL monitoring and removal was initially conducted weekly at wells with LNAPL and the frequency has been reduced in some locations depending on whether LNAPL returns after pumping/bailing. Currently, six SEE wells have eductors or pumps in them that have not been removed and cannot be effectively screened for LNAPL (CZ17, UWBZ01, UWBZ30, LSZ02, LSZ30, LSZ40). Eductor removal from these wells is planned as stated in the comments and responses to Field Variance Memo 05.

Dual screened wells (UWBZ28/LSZ51, UWBZ32/LSZ47, and UWBZ33/LSZ48, and CZ22/UWBZ35) are not routinely checked for LNAPL due to the packers installed between the two screen intervals and the associated air line and injection piping. Periodically, when collecting groundwater samples or doing maintenance work on the packers, LNAPL measurements have been collected. If LNAPL is observed while packers are temporarily removed, LNAPL is assumed to originate from the screened interval(s) that had positive dye test results in soil during well installation.

Any additional wells that are monitored in future weeks will be included on this table:

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
CZ01	7/19/2016	N	Y	NM	146 ⁽²⁾	0.3 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	145 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	144 ⁽²⁾	144 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Y	NM	144 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	147 ⁽²⁾	0.06 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 ⁽²⁾	0.17 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	146 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
CZ02	7/12/2016	N	N	---	144 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	Y	NM	147 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ03	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/11/2016	N	N	---	142 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
CZ04	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ05	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ06	7/11/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	7/13/2016	N	Y	NM	142 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	144 ⁽²⁾	144 ⁽²⁾	0.50 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	144 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/16/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
CZ07	11/1/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	7/13/2016	N	Y	NM	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	146 ⁽²⁾	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM ⁽²⁾	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM ⁽²⁾	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
CZ08	6/22/2016	N	Y	NR	NR	0.13 ⁽¹⁾	N	Y	---	---	---	0
	7/18/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	Y	---	146 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
CZ09	6/23/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	Sheen	146 ⁽²⁾	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/27/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
CZ10	5/23/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	7/7/2016	N	Sheen	---	NM	---	N	Sheen	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
CZ11	11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/7/2016	N	Y	149 ⁽²⁾	NM	NM	Y	N	NR	NR	NR	1
	6/23/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	N	NM	156 ⁽²⁾	NM	N	N	---	---	---	0
	7/13/2016	N	Y	143 ⁽²⁾	150 ⁽²⁾	7	N	Y	---	---	---	0
	7/19/2016	N	Sheen	---	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	---	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
CZ12	8/2/2016	N	Sheen	---	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/17/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	Y	---	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
CZ13	11/4/2016	N	Sheen	---	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	5/22/2016	N	N	---	---	---	N	N	---	---	---	0
	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/7/2016	N	Y	148 ⁽²⁾	NM	NM	Y	N	NR	NR	NR	3
	6/22/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	Sheen	NM	152 ⁽²⁾	NM	N	Sheen	---	---	---	0
	7/7/2016	N	Sheen	---	NM	---	N	Sheen	---	---	---	0
	7/11/2016	N	Sheen	142 ⁽²⁾	142 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
CZ14	7/25/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	Sheen	NM	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
CZ15	11/4/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/7/2016	N	Y	151 ⁽²⁾	NM	NM	Y	N	151	NR	NR	1
	6/22/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	N	---	152 ⁽²⁾	---	N	N	---	---	---	0
	7/11/2016	N	N	---	141 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
CZ16	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	5/31/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/15/2016	N	N	NM	149 ⁽²⁾	NM	N	N	---	---	---	0
	6/22/2016	N	Y	NM	NM	0.13 ⁽¹⁾	N	Y	---	---	---	0
	6/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	7/12/2016	N	Y	---	144 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/28/2016	N	Y	---	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	---	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
CZ18	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ19	5/31/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/22/2016	N	N	---	NM ⁽²⁾	---	N	N	---	---	---	0
	6/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	7/12/2016	N	Sheen	147 ⁽²⁾	147 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/28/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/15/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/23/2016	N	Y	NM	149 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	---	---	---	---	---	---	---	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ20	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ21*	7/20/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
CZ22/ UWBZ35*	7/20/2015	N	N	---	---	---	N	N	---	---	---	0
	9/2/2016 ⁽⁵⁾	Y	N	---	143.64	---	N	N	---	---	---	0
	9/2/2016 ⁽⁶⁾	Y	N	---	143.58	---	N	N	---	---	---	0
	10/7/2016 ⁽⁵⁾	Y	N	---	143.06	---	N	N	---	---	---	0
	10/7/2016 ⁽⁶⁾	Y	N	---	143.06	---	N	N	---	---	---	0
	11/4/2016 ⁽⁷⁾	Y	Y	142.98	143.64	0.66	N	N	---	---	---	0
UWBZ02	7/12/2016	N	Y	142 ⁽²⁾	169 ⁽²⁾	27 ⁽¹⁾	Y	N	NR	NR	0	25
	7/27/2016	N	Y	NM	149 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/26/2016	N	N	---	152 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	9/14/2016	N	N	---	151 ⁽²⁾	---	N	N	---	---	---	0
	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
UWBZ03	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
UWBZ04	11/4/2016	N	Y	144 ⁽²⁾	155 ⁽²⁾	11 ⁽¹⁾	N	Y	---	---	---	0
UWBZ05	11/4/2016	N	Y	145 ⁽²⁾	154 ⁽²⁾	9 ⁽¹⁾	N	Y	---	---	---	0
UWBZ06	11/1/2016	N	Y	138 ⁽²⁾	153 ⁽²⁾	15 ⁽¹⁾	N	Y	---	---	---	0
	11/3/2016	N	Y	138 ⁽²⁾	153 ⁽²⁾	15 ⁽¹⁾	Y	Y	NR	148 ⁽²⁾	0.01 ⁽¹⁾	25
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
UWBZ07	8/2/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
UWBZ09	7/19/2016	N	Y	---	144 ⁽²⁾	0.4 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	---	145 ⁽²⁾	0.33 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	---	145 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/12/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	---	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/26/2016	N	Y	---	150 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	---	150 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	---	151 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	---	147 ⁽²⁾	0.13 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	---	147 ⁽²⁾	1.83 ⁽¹⁾	N	Y	---	---	---	0
	10/31/2016	N	Y	145 ⁽²⁾	147 ⁽²⁾	2 ⁽¹⁾	Y	Y	NR	147 ⁽²⁾	0.01 ⁽¹⁾	5
	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/3/2016	N	Y	143 ⁽³⁾	NM	NM	Y	N	NR	NR	NR	13
UWBZ10	6/23/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	Y	151 ⁽²⁾	151 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Y	142 ⁽²⁾	152 ⁽²⁾	10 ⁽¹⁾	N	Y	---	---	---	0
	7/13/2016	N	Y	NR	NR	NR	Y	N	NR	NR	0	18
	7/27/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	149 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
UWBZ11	7/18/2016	N	Y	142 ⁽²⁾	158 ⁽²⁾	16 ⁽¹⁾	N	Y	---	---	---	0
	7/29/2016	N	Y	144 ⁽²⁾	151 ⁽²⁾	7 ⁽¹⁾	Y	N	NR	148	0	20
	8/3/2016	N	Y	NM	149 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	146 ⁽²⁾	148 ⁽²⁾	2 ⁽¹⁾	N	Y	---	---	---	0
	8/18/2016	N	Y	146 ⁽²⁾	147 ⁽²⁾	1 ⁽¹⁾	Y	Y	147 ⁽²⁾	147 ⁽²⁾	0.01 ⁽¹⁾	10
	8/26/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.1 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	146 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
UWBZ12	7/19/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Y	NM	145 ⁽²⁾	0.1 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	Y	NM	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	Sheen	NM	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	Y	NM	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
UWBZ13	7/7/2016	N	Y	NM	NM	<0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Y	140 ⁽²⁾	165 ⁽²⁾	25 ⁽¹⁾	N	Y	---	---	---	0
	7/13/2016	N	Y	NR	NR	NR	Y	N	NR	NR	0	40
	7/27/2016	N	Y	NM	148 ⁽²⁾	0.4 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Sheen	NM	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/15/2016	N	Y	---	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	---	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	---	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	---	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	---	149 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	---	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
UWBZ19	8/30/2016	N	Y	NM	147 (2)	0.02 (1)	N	Y	---	---	---	0
	9/14/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	10/14/2016	N	Y	---	147 (2)	0.08 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	---	147 (2)	0.08 (1)	N	Y	---	---	---	0
UWBZ21	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	Y	148 (2)	NM	NM	Y	N	NR	NR	0	24
	6/23/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/29/2016	N	Y	155 (2)	157.5 (2)	2.5 (1)	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.08 (1)	N	Y	---	---	---	0
	7/29/2016	N	Y	146 (2)	152 (2)	6 (1)	Y	N	NR	148 (2)	0.1 (1)	20
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/10/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 (2)	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	Y	NM	147 (2)	0.04 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
UWBZ22	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/8/2016	N	Y	149 (2)	NM	NM	Y	N	NR	NR	0	1
	6/29/2016	N	Y	147.5 (2)	147 (2)	0.5 (1)	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.02 (1)	N	Y	---	---	---	0
	7/12/2016	N	Y	NM	146 (2)	0.04 (1)	N	Y	---	---	---	0
	7/28/2016	N	Y	NM	150 (2)	0.4 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	150 (2)	0.02 (1)	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	149 (2)	0.04 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	147 (2)	0.2 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	148 (2)	0.25 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	148 (2)	0.25 (1)	N	Y	---	---	---	0
UWBZ23	5/18/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/9/2016	N	Y	148 (2)	NM	NM	Y	N	NR	NR	0	35
	6/29/2016	N	Y	153 (2)	154.5 (2)	1.5 (1)	N	Y	---	---	---	0
	7/11/2016	N	Y	142 (2)	148 (2)	6 (1)	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	149 (2)	0.8 (1)	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	149 (2)	0.02 (1)	N	Y	---	---	---	0
	8/10/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	146 (2)	149 (2)	3 (1)	N	Y	---	---	---	0
	8/22/2016	N	Y	146 (2)	149 (2)	3 (1)	Y	N	---	148 (2)	0	15
	8/26/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/14/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	10/14/2016	N	Y	---	149 (2)	0.02 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	---	148 (2)	0.02 (1)	N	Y	---	---	---	0
UWBZ25	7/19/2016	N	Sheen	145 (2)	145 (2)	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/16/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	11/1/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	6/29/2016	N	Y	141.5 (2)	170 (2)	28.5 (1)	N	Y	---	---	---	0
	7/5/2016	Y	Y	140.4	167.1	26.61	Y	Y	142.2	162.9	20.7	10
	7/6/2016	Y	Y	142	163	20.99	Y	Y	147.3	147.8	0.45	40
UWBZ26	7/12/2016	N	Y	NM	142 (2)	0.17 (1)	N	Y	---	---	---	0
	7/28/2016	N	Y	147 (2)	148 (2)	1 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	147 (2)	148 (2)	0.01 (1)	N	Y	---	---	---	0
	8/12/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	8/16/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/26/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/30/2016	N	Y	---	148 (2)	0.1 (1)	N	Y	---	---	---	0
	9/29/2016	N	Y	---	147 (2)	0.08 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	---	147 (2)	0.08 (1)	N	Y	---	---	---	0
	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
UWBZ27	6/8/2016	N	Y	143 (2)	NM	NM	Y	N	NR	NR	NR	32
	6/29/2016	N	Y	148 (2)	148 (2)	0.02 (1)	N	Y	---	---	---	0
	7/12/2016	N	N	---	143 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	147 (2)	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
LSZ19	7/7/2016	N	Y	NM	NM	0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Y	NM	144 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	7/27/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Y	---	---	---	0
	8/16/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/26/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
LSZ20	7/7/2016	N	Sheen	---	NM	---	N	Y	---	---	---	0
	7/11/2016	N	Sheen	142 ⁽²⁾	142 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM	149 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/26/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ21	7/19/2016	N	Sheen	NM	144 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	NM	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/3/2016	N	Sheen	NM	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Sheen	NM	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
LSZ22	7/25/2016	N	Sheen	NM	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/3/2016	N	Sheen	NM	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/12/2016	N	Sheen	NM	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	5/26/2016	N	Y	NM	NM	N	Y	---	---	---	---	0
LSZ23	6/20/2016	N	N	---	151 ⁽²⁾	---	N	N	---	---	---	0
	6/29/2016	N	N	---	152 ⁽²⁾	---	N	N	---	---	---	0
	7/7/2016	N	N	---	NM	---	N	N	---	---	---	0
	7/12/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	7/12/2016	N	N	---	142 ⁽²⁾	---	N	N	---	---	---	0
	7/20/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
LSZ24	7/28/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/12/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/25/2016	N	N	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	7/11/2016	N	Sheen	143 ⁽²⁾	143 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
LSZ25	8/2/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	5/16/2016	N	Y	NM	NM	N	Y	---	---	---	---	0
	6/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ26	6/29/2016	N	N	---	153 ⁽²⁾	---	N	N	---	---	---	0
	7/11/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
LSZ27	7/27/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
LSZ28	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/3/2016	N	Y	146	NM	NM	Y	N	NR	NR	0	5
	6/23/2016	N	N	---	NM	---	N	N	---	---	---	0
	6/29/2016	N	N	---	151 ⁽²⁾	---	N	N	---	---	---	0
	7/12/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/27/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ29	5/18/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/6/2016	N	Y	142 ⁽²⁾	NM	NM	Y	Y	NR	NR	NR	3
	6/29/2016	N	Y	152 ⁽²⁾	152 ⁽²⁾	<0.01 ⁽¹⁾	N	Y	NR	NR	<0.01	0
	7/20/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	Y	NM	149 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ31	6/6/2016	N	Y	151 ⁽²⁾	NM	NM	Y	N	NR	NR	0	20
	7/25/2016	N	Y	NM	145 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/23/2016	N	Y	NM	146 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
LSZ32	7/25/2016	N	Y	144.8 ⁽²⁾	145 ⁽²⁾	1.2 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	NM ⁽²⁾	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/12/2016	N	Y	NM ⁽²⁾	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	146 ⁽²⁾	0.1 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
LSZ34	5/17/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	Y	148 ⁽²⁾	NM	NM	Y	N	NR	NR	0	38
	6/29/2016	N	Y	152 ⁽²⁾	152 ⁽²⁾	<0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	145 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	149 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM ⁽²⁾	149 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/26/2016	N	Y	NM ⁽²⁾	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM ⁽²⁾	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM ⁽²⁾	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ35	6/29/2016	N	Y	147 ⁽²⁾	NM	NM	Y	N	NR	NR	0	65
	7/12/2016	N	Y	140 ⁽²⁾	168 ⁽²⁾	28 ⁽¹⁾	N	Y	---	---	---	0
	7/18/2016	N	Y	143 ⁽²⁾	149 ⁽²⁾	6 ⁽¹⁾	Y	N	NR	146 ⁽²⁾	Sheen	35
	7/25/2016	N	Y	NM	149 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	150 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	149 ⁽²⁾	0.06 ⁽¹⁾	N	Y	---	---	---	0
	8/16/2016	N	Y	146 ⁽²⁾	149 ⁽²⁾	3 ⁽¹⁾	N	Y	---	---	---	0
	8/22/2016	N	Y	146 ⁽²⁾	149 ⁽²⁾	3 ⁽¹⁾	Y	N	---	149 ⁽²⁾	0	10
	8/23/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	149 ⁽²⁾	0.06 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/10/2016	N	Y	144 ⁽²⁾	NM	NM	Y	N	NR	NR	0	86
	6/29/2016	N	Y	152 ⁽²⁾	152 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.06 ⁽¹⁾	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	145 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	145 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	145 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	146 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/26/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.17 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
LSZ36	10/21/2016	N	Y	148 ⁽²⁾	151 ⁽²⁾	3 ⁽¹⁾	Y	Y	NM	150	Sheen	9
	10/25/2016	N	Sheen	NM	150 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
LSZ37	5/23/2016	Y	Y	138.40	185.80	47.40	N	Y	---	---	---	0
	5/24/2016	Y	Y	NR	NR	NR	Y	Y	145.1	161.7	16.56	60
	5/25/2016	Y	Y	NR	NR	NR	Y	Y	148.6	149.6	1.05	25
	5/25/2016	Y	Y	148.45	149.51	1.06	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.46	149.5	1.04	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.42	149.54	1.12	N	Y	---	---	---	0
	5/27/2016	Y	Y	148.31	149.5	1.19	N	Y	---	---	---	0
	5/31/2016	Y	Y	148.31	149.49	1.18	N	N	---	---	---	0
	6/2/2016	Y	Y	NR	NR	NR	Y	Y	149.12	150.11	0.99	17
	6/3/2016	Y	Y	148.66	148.7	0.04	N	Y	---	---	---	0
	7/1/2016	Y	N	---	148.58	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.45	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.29	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.45	---	N	N	---	---	---	0
	9/2/2016	Y	Y	148.11	148.16	0.05	N	Y	---	---	---	0
LSZ38	10/7/2016	Y	Y	147.86	147.92	0.06	N	Y	---	---	---	0
	5/23/2016	Y	Y	145.33	156.19	10.86	N	Y	---	---	---	0
	5/24/2016	Y	Y	NR	NR	NR	Y	Y	148.5	149.58	1.08	15
	5/25/2016	Y	Y	148.55	149.7	1.15	N	Y	---	---	---	0
	5/25/2016	Y	Y	148.47	149.66	1.19	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.51	149.76	1.25	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.42	149.61	1.19	N	Y	---	---	---	0
	5/27/2016	Y	Y	148.34	149.58	1.24	N	Y	---	---	---	0
	5/31/2016	Y	Y	148.33	149.61	1.28	N	Y	---	---	---	0
	6/3/2016	Y	Y	148.41	149.62	1.21	N	Y	---	---	---	0
	7/1/2016	Y	N	---	148.33	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.22	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.02	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.65	---	N	N	---	---	---	0
	9/2/2016	Y	Y	147.87	149.07	1.20	N	Y	---	---	---	0
LSZ39	10/7/2016	Y	Y	147.62	148.81	1.19	N	Y	---	---	---	0
	5/19/2016	Y	Y	NR	NR	NR	N	Y	---	---	---	0
	5/23/2016	Y	Y	135.78	191.02	55.24	N	Y	---	---	---	0
	5/26/2016	Y	Y	135.91	191.2	55.29	N	Y	---	---	---	0
	6/1/2016	Y	Y	135.85	190.8	54.95	Y	Y	150.16	152.45	2.29	80
	6/1/2016	Y	Y	148.49	150.82	2.33	N	Y	---	---	---	0
	6/1/2016	Y	Y	148.71	151.09	2.38	N	Y	---	---	---	0
	6/3/2016	Y	Y	148.71	151.11	2.40	N	Y	---	---	---	0
	7/1/2016	Y	N	---	149.18	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	149.05	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.81	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.83	---	N	N	---	---	---	0
	9/2/2016	Y	Y	148.71	148.83	0.07	N	N	---	---	---	0
	10/7/2016	Y	N	---	148.50	---	N	N	---	---	---	0
LSZ41	7/20/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ42	7/19/2016	N	Y	143 ⁽²⁾	151 ⁽²⁾	8 ⁽¹⁾	N	Y	---	---	---	0
	7/29/2016	N	Y	143 ⁽²⁾	149 ⁽²⁾	6 ⁽¹⁾	Y	Y	NR	148 ⁽²⁾	0.5 ⁽¹⁾	36
	8/3/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/6/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	9/20/2016	N	Y	NM	147 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	9/26/2016	N	Y	NM	147 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	10/4/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	146 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	146 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
LSZ43*	7/20/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016											

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
LSZ44*	8/5/2016	Y	N	---	150.15	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	150.14	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	149.70	---	N	N	---	---	---	0
LSZ45*	6/27/2016	Y	N	---	151.61	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	148.94	---	N	N	---	---	---	0
	7/11/2016	Y	N	---	145.00	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.89	---	N	N	---	---	---	0
	7/22/2016	Y	N	---	148.65	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.73	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	148.46	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	148.27	---	N	N	---	---	---	0
LSZ46*	6/27/2016	Y	N	---	148.05	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	147.95	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	147.87	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	147.71	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	147.73	---	N	N	---	---	---	0
	9/2/2016	Y	Y	147.47	147.48	0.01	N	Y	---	---	---	0
	10/7/2016	Y	N	---	147.27	---	N	N	---	---	---	0
	6/14/2016	Y	N	---	145.67	---	N	N	---	---	---	0
LSZ49*	7/8/2016	Y	N	---	145.93	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	145.85	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	145.74	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	145.69	---	N	N	---	---	---	0
	9/2/2016	Y	Y	145.50	145.51	0.01	N	Y	---	---	---	0
	9/30/2016	Y	N	---	145.37	---	N	N	---	---	---	0
	6/14/2016	Y	N	---	145.26	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	144.70	---	N	N	---	---	---	0
LSZ50*	7/15/2016	Y	N	144.60	146.82	2.22	N	Y	---	---	---	0
	7/29/2016	Y	N	144.48	146.69	2.21	N	Y	---	---	---	0
	8/5/2016	Y	N	---	144.42	---	N	N	---	---	---	0
	8/12/2016	Y	Y	144.42	146.62	2.20	N	Y	---	---	---	0
	8/19/2016	Y	Y	144.46	146.56	2.10	N	Y	---	---	---	0
	8/26/2016	Y	N	---	144.36	---	N	N	---	---	---	0
	9/2/2016	Y	Y	144.20	146.44	2.24	Y	N	---	147.00	0.00	5
	9/9/2016	Y	Y	144.78	144.81	0.03	N	Y	---	---	---	0
	9/23/2016	Y	Y	144.60	144.68	0.08	N	Y	---	---	---	0
	9/30/2016	Y	N	---	144.55	---	N	N	---	---	---	0
	10/7/2016	Y	Y	144.57	144.62	0.05	N	Y	---	---	---	0
	10/21/2016	Y	Y	144.49	144.54	0.05	N	Y	---	---	---	0
	10/28/2016	Y	Y	144.21	144.27	0.06	N	Y	---	---	---	0
LSZ52*	7/8/2016	Y	N	---	149.00	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.89	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.71	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.74	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	148.50	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	148.26	---	N	N	---	---	---	0

NM = Not measured due to temperature interference.

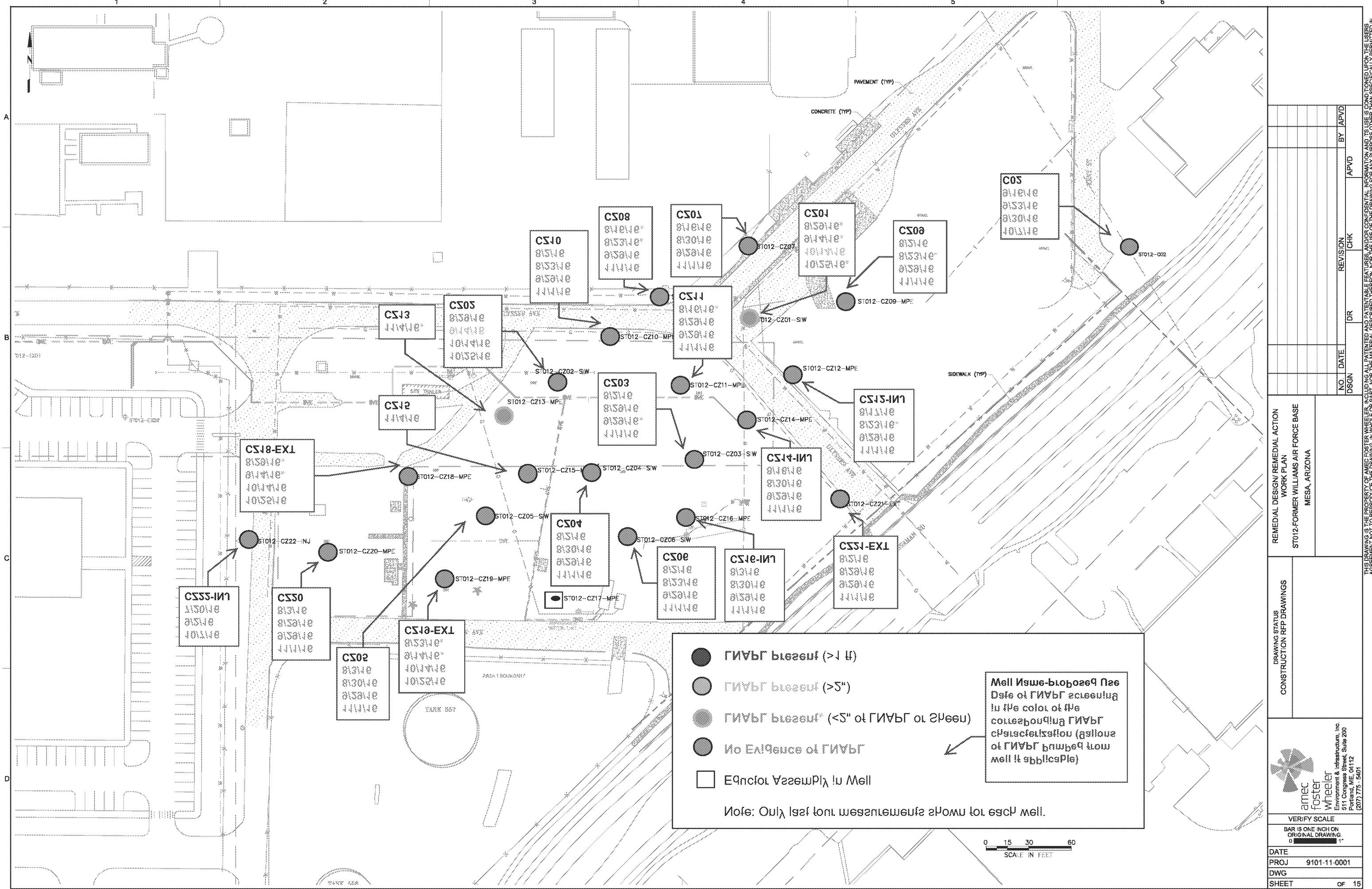
NR = Not recorded.

--- = No NAPL present. Measurement not performed.

* = Newly installed well.

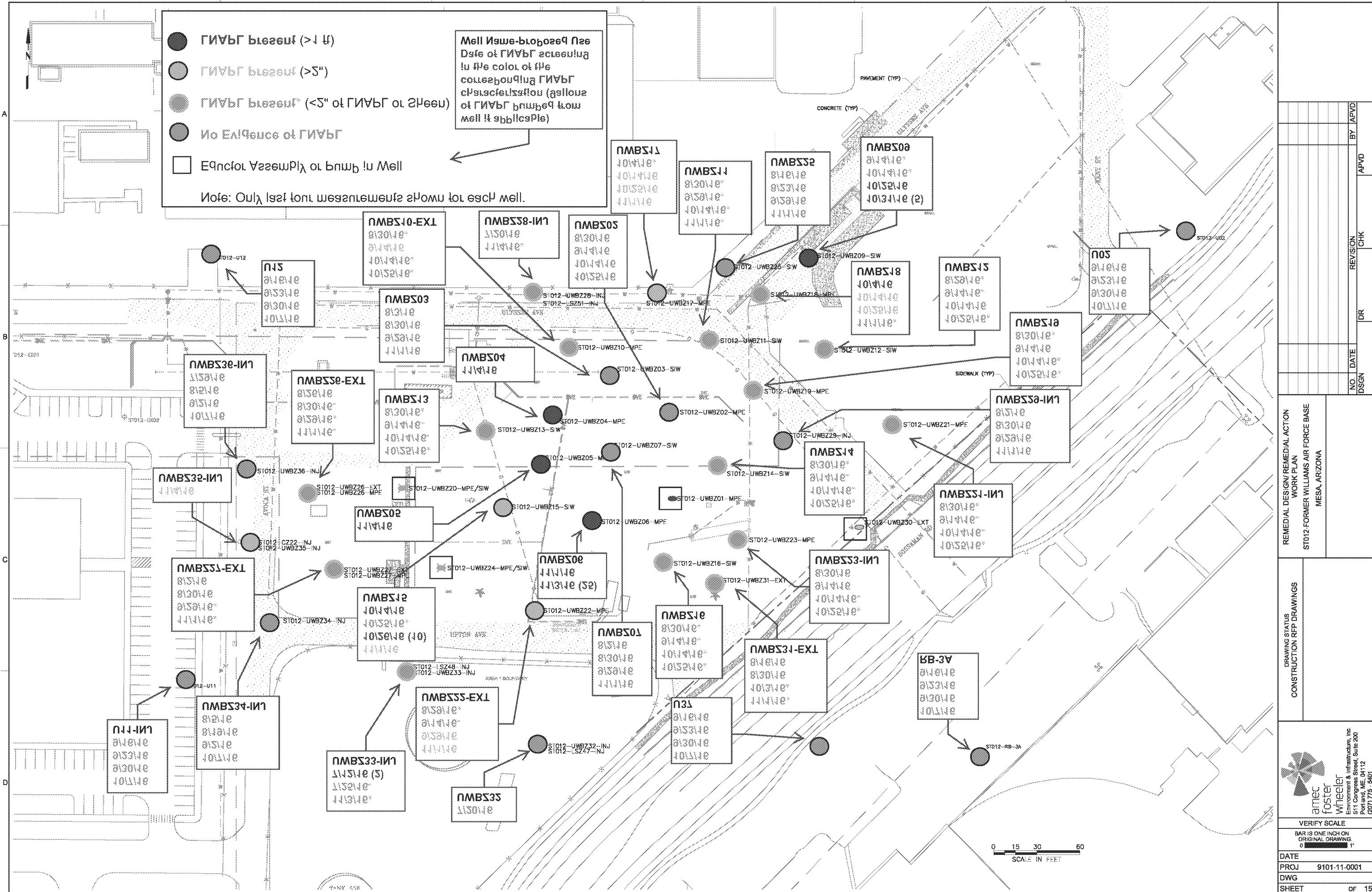
Notes:

- (1) LNAPL estimated using PTFE bailer, not interface probe.
- (2) Depth measured using a bailer.
- (3) Depth measured using a tagline.
- (4) LNAPL recovered included water.
- (5) Dual screened well location monitored for LNAPL in the upper interval only.
- (6) Dual screened well location monitored for LNAPL in the lower interval only.
- (7) Dual screened well location was monitored after packer were pulled from well.

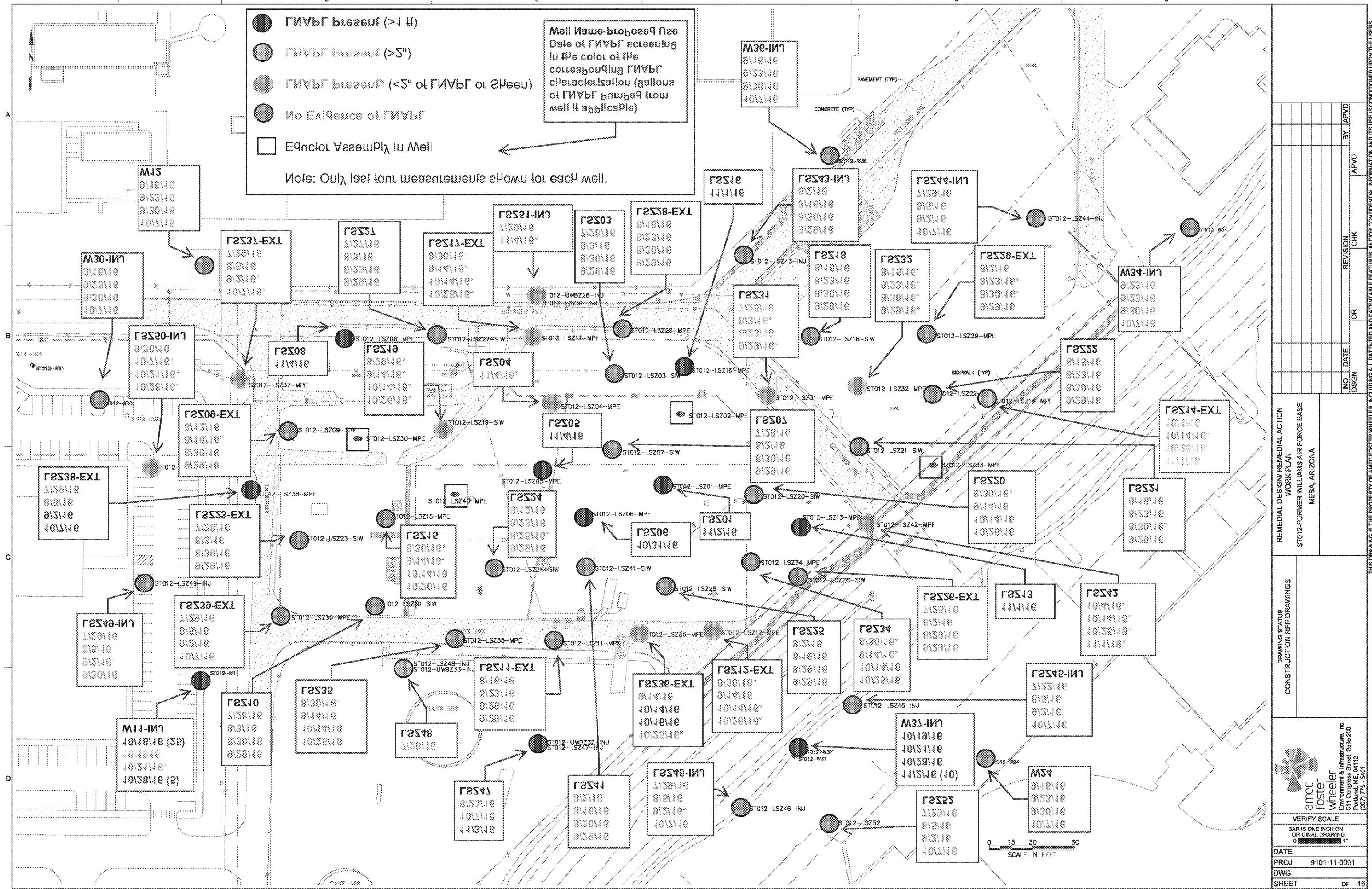


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ED_005025_00009534-00024



ED_005025_00009534-00025



Project Name: ST012

Project Number: 9/01110001.5310.03

Date: 11/3/16

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Boring ID: LS254

Boring Location: Cell Phone lot

Elevation and Datum:

Start Date: 11/3/16

Completion Date:

Total Depth Drilled:

Depth to Water:

Logged By: Garrett Tabor

Project Manager: Gwen Minnier

Drilling Contractor: YJD

Drill Rig Type: Sonic

Casing Size: 8" casing 7" core

Soil Sampling Method:

Soil Classification, Description and NotesUSCS Name

Soil description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, odor, staining. Include additional descriptive information in the soil description or notes.

Depth Below Ground Surface (feet)	Sample ID	PID (ppm)	NAP Test (Red/Pink/None)	USCS
0				
5				
10				
15				
20				
25				

UNKNOWN

Disturbed by
pitholing

Silty Sand @ 10'
70% sand pred UF-m Gw SAt/SK
30% silt
WC, NPI, red-brown, No stain, no odor dry

Note: 19'-22' moderately cemented
moderately cemented

Note: 22.5' - 23' clayey zone

Note: 24'-~~25'~~^{130'} moderately cemented

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Boring ID: LSZ 54

Depth Below Ground Surface (feet)	Sample ID	P	I	L	USCS	Soil Classification and Notes
		I D (cm)	A A L	USCS		Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
25		0.5		sm		<u>Silty Sand (con)</u>
30		0.6				Notes: 31-34 clayey zone
35		0.4		sil-sm		Well graded sand with silt + gravel 80% sand UF-C con SAI/SB 10% silt 10% gravel F-C GSS SAI/SR WC, NPL, Brown, dry, no shear no odor
40		0.3		sm		Notes: @ 40' strongly cemented <u>Silty Sand @ 40'</u> 75% sand per UF-mcon 25% silt WC to MC NPL, Red-brown, dry, no shear no odor
45		0.3				Notes: 43.5'- 44' clayey zone,
50						Note: 49'- 50' strongly cemented

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Boring ID: LS2 54

Depth Below Ground Surface (feet)	Sample ID	D ± (1pm)	L N A P	USCS	Soil Classification and Notes
30		6.5	S	SM	Silty Sand (coarse)
35					
40					
45					
50					
55	0-7			SM	Poorly Graded Sand with Silt 40% to 85% sand pred F-M or m silt/sr 10% silt 5% gravel F-Gm SA/SR NC, NPI, Brown, dry, no odor no stain
60	1-1				Silty Sand @ 56' 75% sand pred V-F-m or SA/SR 25% silt Wt to WC to MC, NPI, Red-brown, No odor no stain, dry
65	1-0				Note: 61-64' moderately to strongly cemented
70	0-5				
75					Well Graded sand with silt @ 73' @ 85% sand V-F-c or m SA/SR 10% silt 5% gravel P Gm SA/SR NC, NPI, red brown, dry, no odor no stain

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Boring ID: LS254



Depth Below Ground Surface (feet)	Sample ID	P I D (ppm)	L N A P L	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
75		0.3		SW-SM	Well graded sand with Silt (cont)
					Silty sand @ 76'
					70% sand pred UF-FGW
					30% silt
					WC to OC, NPI, Red-brown dry weathered no roots
80		1.5			
					Note: 82'-83' sandy zone, margin
					Note: 83'-84' moderately cemented
85		1.3			Note: 86'-88' clayey zone
90		1.2			
					Note: 92'-94' ^{at} Sandy zone increase sand content
95		0.3			94'-96' - clayey zone,
100					

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Project Number: 910100001.5310.03

Date: 11/3/04

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Boring ID: LSZ 54

Depth Below Ground Surface (feet)	Sample ID	P (% by vol)	L (%))	USCS	Soil Classification and Notes
100					Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
102	0.7	50	50	SM	Silty Sand (con)
105	0.3				Note: 102 - 106' clayey zone
110	0.3			SP	Poorly Gravelled Sand @ 109' 85% sand pred F-M Grav 10% -gravel F-C Grav 5% silt NC, NPL, Brown, dry, no stain no odor
115	0.3			SM	Silty Sand @ 116' 70% sand pred VF-2 Grav 30% silt WL, NPL, Red-brown, dry, no stain no odor
120	1.0			SW	
125					see next page

Project Name: ST012
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Boring ID: LSZ54

Depth Below Ground Surface (feet)	Sample ID	D F S (ppm)	L N A (%)	S	Soil Classification and Notes
125		0.5	SW		Well graded sand with gravel @ 124' 90% sand F-C Grw SA/SK 10% gravel F-C Grw NC, NPL, Brown, dry, no stain no odor.
130		1.5			Clayey Sand @ 126' 60% sand grnd VF-F Grw SA/SK 15% clay 5% silt NC, Low Pl, Brown, st moist, no odor no staining
135		1.1			
140		1.1	SP		Poorly Graded Sand w gravel @ 140' 80% - sand VF-C Grw SA/SK 15% - gravel F-C Grw SA/SK 5% - silt NC, NPL, Brown, dry, no stain no odor
145		0.6			Notes hit H ₂ O @ 146'
150					

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Boring ID: LSZ 54



Depth Below Ground Surface (feet)	Sample ID	P (ppm)	L %	USCS	Soil Classification and Notes Name (USCS Symbol); color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
150		22	5%		Poorly Graded Sand with Gravel (Con) Note: 151' - 152' clay & zone Note: 151' - strongly cemented piece present Note: below 152' sand's pred M-C Grav
153		2.3		SC	Clayey Sand @ 156' 60% Sand pred VF-F Grav w/ S.R. 40% Clay WC to MC, Med Pl, Brown, moist, no stain no odor
160		0.4			
165		0.4			
170		1.4			
175		5W			see next page

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Boring ID: LS2 54

Depth Below Ground Surface (feet)	Sample ID	P S (grms)	L A C	USCS	Soil Classification and Notes
					Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
175		9.9		SP	Well graded Sand with gravel @ 173' 70% sand UF-C Orn SA/SR 25% gravel F-C Orn SA/SR 5% silt NC, NP, Brown, wet, no odor, No stain Note: @ 178' Gravel Content increased
179					
180		0.8		SP-S	Borley Graded Sand with Silt @ 180' ~98% F-M Gr Sand SR/SA ~1% Silt NC, NP, Brown, wet, No odor, No stains Clay with sand @ 182'
				S	~80% Clay ~20% F-Gr sand NC, NP, Brown, moist, No odor, No stains
186		0.5		SP	Well graded Sand with Gravel @ 185' ~59% F-C-Gr Sand SR/SA ~20% Pred F-Gr Sand SP/SA ~5% silt NC, NP, Brown, wet, No odor, No stains Note: @ 186' Poorly Graded Sand lens @ (FM-Gr)
190		1.5		CL	Clay with Sand @ 189' ~75% clay ~25% F-Gr sand NC, Med PI, light brown-red, moist-wet, No odor, No stains Note: @ 191' SP lens
193				SP-S	Well Graded Sand with silt & Gravel @ 193' ~80% F-C-Gr Sand SR/SA ~10% F-C-Gr Gravel SR/SA ~10% Silt NC, NP, Brown, wet, No odor, No stains
195		1.4		CL	Clay with Sand @ 196' 70% Clay 30% F-Gr sand WC, Med-Low PI, light red brown, St. moist, No odor, some black staining Note: @ 199' Clay content increased, cementation decreased
200				CL	

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Boring ID: LS 254



Depth Below Ground Surface (feet)	Sample ID	P/T D	CNAPC	Soil Classification and Notes	
				USCS	Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
200		1.3			
205		0.6			Note: @206' red Sand content increased
210		1.1			
			SW		Well Graded Sand with Gravel @ 211' 70% F-C-Gr sand 20% Silt N, NP, Brown, wet, No odor, No stains Note: @213' 1' Clay lens
215		1.2			
			CL		Clay @ 216 ~95% Clay (Some silt) ~5% F-Gr Sand W, N, MP, light brown red, moist, No odor, No stains (Some silt lenses)
220		1.5	SC		
					Clayey Sand @ 220' ~70% F-Gr sand ~30% clay N, NP, tan PI, brown, moist, No odor, No stains Well Graded Sand with Silt @ 222'
225					~90% F-C-Gr Sand SR/SA ~10% Silt N, NP, Brown, wet, No odor, No stains

Project Name: _____

Page ____ of ____

Project Number: _____



Date: _____

Boring ID: LSZ54

Depth Below Ground Surface (feet)	Sample ID			Soil Classification and Notes	
				USCS	Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
225	3.3				<u>Note @ 225' few Gravels</u>
230	0.2				<u>Note @ 225' Cobble, FG Sands increased</u>
235					TD@ 230' 11-4-16
240					
245					
250					



Project Name: STO12

Page 1 of 1D

Project Number: 9101110001, 5310.03

Date: 10/28/16

Boring ID: LS2 - 54

Boring Location: Avoca st STO12

Logged By: Corbett Tech

Elevation and Datum:

Project Manager: Gaven Minniver

Start Date: 10/28/16

Drilling Contractor: YJD

Completion Date: 11/1/16

Drill Rig Type: Sonic

Total Depth Drilled: 232'

Casing Size: 7" core 8" casing

Depth to Water: -14'

Soil Sampling Method:

Depth Below Ground Surface (feet)	Sample ID	PID (ppm)	LNAP Test (Red/Pink/None)	USCS	Soil Classification, Description and Notes	
					USCS Name	Soil description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, odor, staining. Include additional descriptive information in the soil description or notes.
0						UNKNOWN
5						DISTURBED By Potholing
10				SM		Silty Sand @ 10' 70% Sand pred UF-on GW SAI/SR 30% Silt • NC to w.c. NPL, red-brown, dry, no stain, no odor
15						note: 14-17' weakly cemented
20						
25						

Project Name: 57012
 Project Number: 91011100015310.03
 Date: 10/28/16

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Boring ID: LSZ 56

Depth Below Ground Surface (feet)	Sample ID	P T (ppm)	L N A C W H T	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description (i.e. % by weight, gradation, angularity) starting with largest percent, cementation, plasticity, odor, staining, any additional information
25		4.4		SM	Silty Sand (cont)
30	2.1				Note: 28' - 34' moderately cemented Note: 34' - 36' rare gravels present F-C Grav
35	1.7				
40	0.8				Note: 38' - 40' sandy lens pred SF - F Grav Sone
45	0.3				Note: 43' - 44' moderately cemented
50					Note: 44' - 46' sandy lens pred WF Grav Sone
					Note: 47' - 49' moderately to strongly cemented

Project Name: STO 17
Project Number: 7101110001.5310.03
Date: 10/28/16

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Boring ID: LSZ 56

Depth Below Ground Surface (feet)	Sample ID	P + D (ppm)	L % Lent	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description (i.e. % by weight, gradation, angularity) starting with largest percent, cementation, plasticity, odor, staining, any additional information
50		O		sm	Silty Sand (con)
52					Note: 50' - 52' sandy lens pred VI = I = Grn sand
55		O			
60		O			Note: 60' - 66' moderately cemented
65		O			
68					Note: 68' - 69' moderately cemented
70		O			
72					Note: 72' - 76' mod to strongly cemented
75					

Project Name: STO13
 Project Number: 910110001. 5310.03
 Date: 10/26/16

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Boring ID: LS256

Depth Below Ground Surface (feet)	Sample ID	P I D (ppm) test	L P L test	USCS	Soil Classification and Notes	
		Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information				
75	O			SM	<u>silty sand (con)</u>	
					well Graded sand w/ gravel @ 77'	
					75% sand VF-C Grw SA/SH	
					20% gravel F-C Crw SR/SK	
					5% silt	
80	O				NC, NP, Brown, dry, no stain or odor	
				SM	<u>silty sand @ 82' > prect</u>	
					70% sand VF - F Grw SA/SH	
					30% silt	
85	O				AC to C WG, NP, red-brown, no stain, dry, no odor	
					notes: 86'-87' clayey zone low PL	
					notes: 87'-94' strongly cemented zone	
90	O					
95	O				Note: 96'-97' sandy lens prect F Grw sand	
100					Note: 99'-101' moderately cemented	

Project Name: STO 12
 Project Number: 910110001.5310.03
 Date: 10/28/14

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Boring ID: LSZ 54

Depth Below Ground Surface (feet)	Sample ID	D I D (cm/m)	L N A P L	SCS S	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
100		O		sm	SP Silty Sand (Con) Note: 102'-104' at moderately cemented
105	O				Note: 104'-106' clayey zone
110	I907 O				
115	SP-SR SP-SR 7.9				Poorly Graded Sand with silt 80% sand pred VF-M tgravel 10% gravel SA/SN 10% s. ll F Grn SA/5R NC, NP, Brown, dry, no stain no odor
120	116	SP			Note: 119'-120' silty sand zone Poorly Graded Sand @ 120 85% sand pred VF-F Grn 10% gravel F Grn 5% silt NC, NP, Brown, dry, no stain no odor
125					

Project Name:

STO/Z

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Project Number:

9101110001, 530, 03



Date:

10/28/16

Boring ID:

L32 S6

Depth Below Ground Surface (feet)	Sample #	P I D (ppm)	Soil Classification and Notes	
			L	S
125	O	0.5	18	Poorly graded sand (con)
			sm	Note: 124'-125' moderately cemented
130	O			Poorly graded sand @ 126' 65% sand, 35% silt, red UC-M GRN SAI/SK wc, NPL, red-brown, dry, no stain wood
135	3.1			Note: 134'-136' moist to strongly cemented
140	O	SP		Poorly graded sand @ 138' 85% sand, 10% gravel, UC-F GRN SAI/SK 10% gravel F-C GRN
142	0.49			5% silt NC, NPL, Brown, moist, no odor no stain
145	O			Note: 142' con 142'
148				Clayey sand @ 147'
150				80% sand UC - P GRN SAI/SK 20% clay NC to WL, Low PL, Brown, wet, no stain no odor

Project Name: 910110001.5310.03
 Project Number: ST012

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Date: 11/11/16

Boring ID: LS2 56

Depth Below Ground Surface (feet)	Sample ID	P E O (ppm)	L A L	USCS	Soil Classification and Notes Name (USCS Symbol); color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
150		0.3		SC	Clayey sand (con) well graded sand with gravel @ 151 55% sand VF-C Grw SA/SK 40% gravel F-C Grw, pred CG1, 15A/SK 5% silt NC, NP, Brown, wet, no stain, no odor
155		0.3		SC	Clayey sand @ 155 70% sand pred VF-E Grw SA/SK 30% clay WC, Low PI to med PI, Brown, moist, no stain, no odor
160		0.4			Note: lost core from 164'-170' will try to recover
165		0.1		SP	soft & poorly graded sand with gravel 65% sand pred VF-M Grw SA/SK 30% - gravel / F-C Grw SA/SK 5% - clay + silt NC, NP to low PI, Brown, wet, no stain, no odor
170		0.6			Note: gravel to 10% below 172 Sand to 85%
175					Note: 172'-175' pred FGrw sand

Project Name: STO12
 Project Number: 910000001.5 310.03
 Date: 11/11/16

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Boring ID: 252 SC

Depth Below Ground Surface (feet)	Sample ID	P	T	N	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description (i.e. % by weight, gradation, angularity) starting with largest percent, cementation, plasticity, odor, staining, any additional information
		t o (ppm)	A E			
175		0.4		SP		Poorly Graded sand (coarse)
180		0.4				Note: 184' - 185' weakly to moderately cemented zone
185		0.4		SC		Clayey sand @ 186' 65% - sand, 35% - clay WC to MC, low Pl to mod Pl, Brown, moist - no stains no odor
190		0.5				Note: 192-194' - pred F Gru sand
195		0.8				Note: 194-196' weakly to moderately cemented zone
200						Note: less clay to ~15%, sand 85%.

Project Name: STOIR

Project Number: 910110001.5310.03

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Date: 11/11/16

Boring ID: LSZ56

Depth Below Ground Surface (feet)	Sample ID	P I O (ppm)	L A P	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description (i.e. % by weight, gradation, angularity) starting with largest percent, cementation, plasticity, odor, staining, any additional information
200	O.7			SC	Clayey Sand (C on) Note: 202'- 204' Sandy and cemented 204',
205	O.9				
210	O.4				Note: 210'- 212' • m + grain sands present
215	O.3			SW	well graded sand with gravel @ 212' 75% - sand UF-C GRN pred M-GRN SA/SR 20% - gravel C-C GRN SA/SR 5% silt NC, NPL, Brown, wet, No stain, no od.
220	O.4			SC	Clayey Sand @ 216' 75% - sand pred UF-F GRN SA/SR 25% clay NL, Low to med PI, Brown, moist, No stain, No od or
225	38				Note: 222'- 224' - Increase Sand F GRN well Graded Sand (see next page)

Project Name: STO12
 Project Number: 710110001 5310.03
 Date: 11/11/16

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Boring ID: LS25C

Depth Below Ground Surface (feet)	Sample ID	P I D (ppm)	L S C	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
225		0.4	S	SP	<p>At 224' - Poorly graded sand @ 224'</p> <p>85% sand, prod of Grn SAVSN</p> <p>10% gravel F-C Grn prod FGrn SAVSN</p> <p>5% silt</p> <p>NC, IVPI, Brown, wet, no stain, no odor</p>
230		0.2			<p>Note: 228' - 230' C-Grn gravels present, overall increase in grain size</p>
235					<p>Note: 231-232' clayey zone</p>
240					
245					
250					